

BAL6/2: FIGURES – HYDRO POE

HATFIELD AERODROME

Town and Country Planning Act 1990, Section 78

Application for the establishment of a new quarry on land at the former Hatfield Aerodrome, including a new access onto the A1057, aggregate processing plant, concrete batching plant and other ancillary facilities, together with the importation of inert fill materials for the restoration of the minerals working

Application Ref. 5/0394-16

Section 78 Appeal against refusal of planning permission by Hertfordshire County Council.

Appeal Ref. APP/M1900/W/21/3278097

**Appendices to the Proof of Evidence of Peter Rowland BSc. MSc.
Hydrogeology**

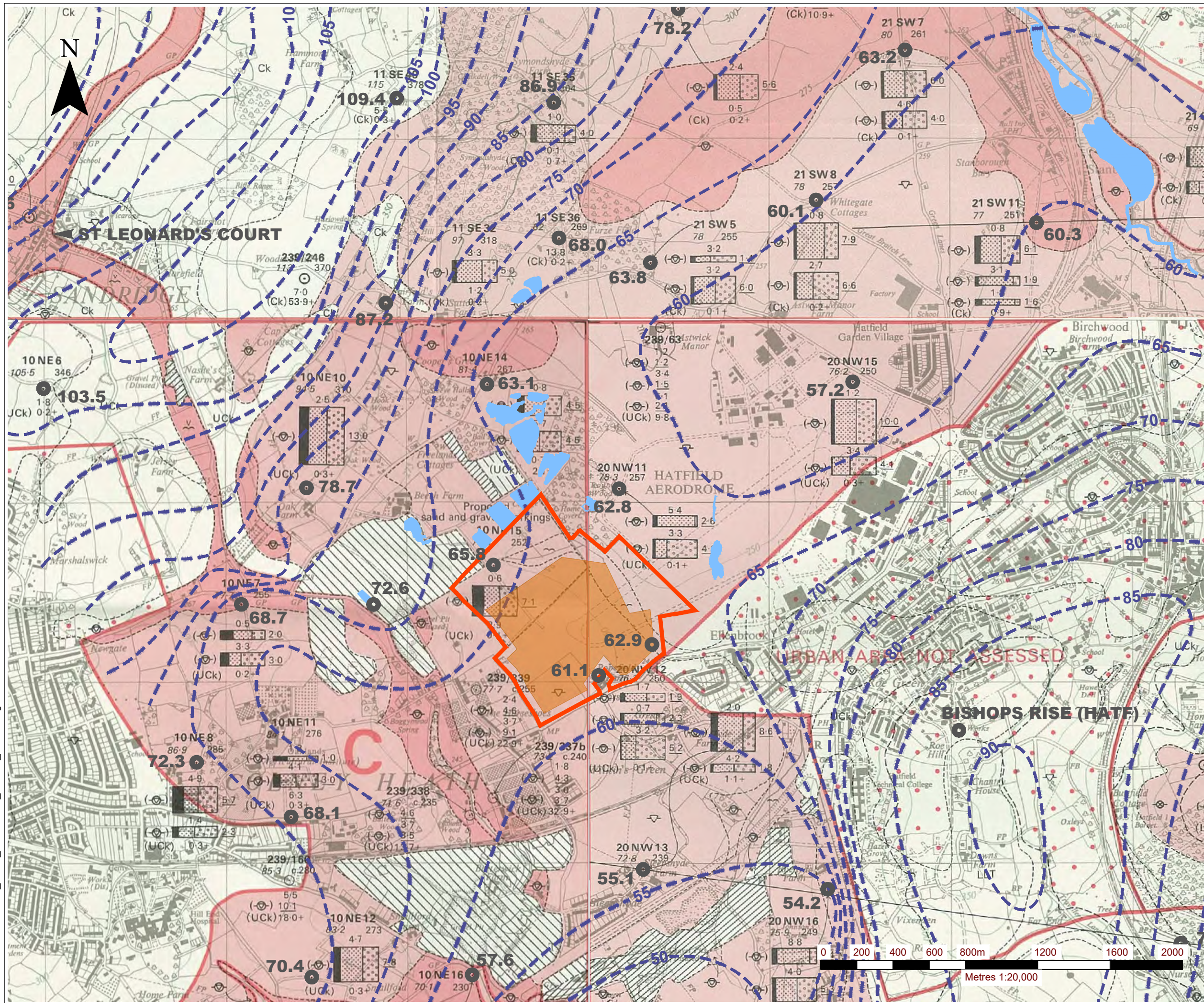


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09885.00024.19.PR-PE1_REV0_REGIONAL_CHALK_SURF.dwg



- NOTES
- SITE BOUNDARY
 - LOWER MINERAL HORIZON EXCAVATION
 - MINERAL DEPOSITS PRESENT
 - CHALK SURFACE ELEVATION (mAOD)

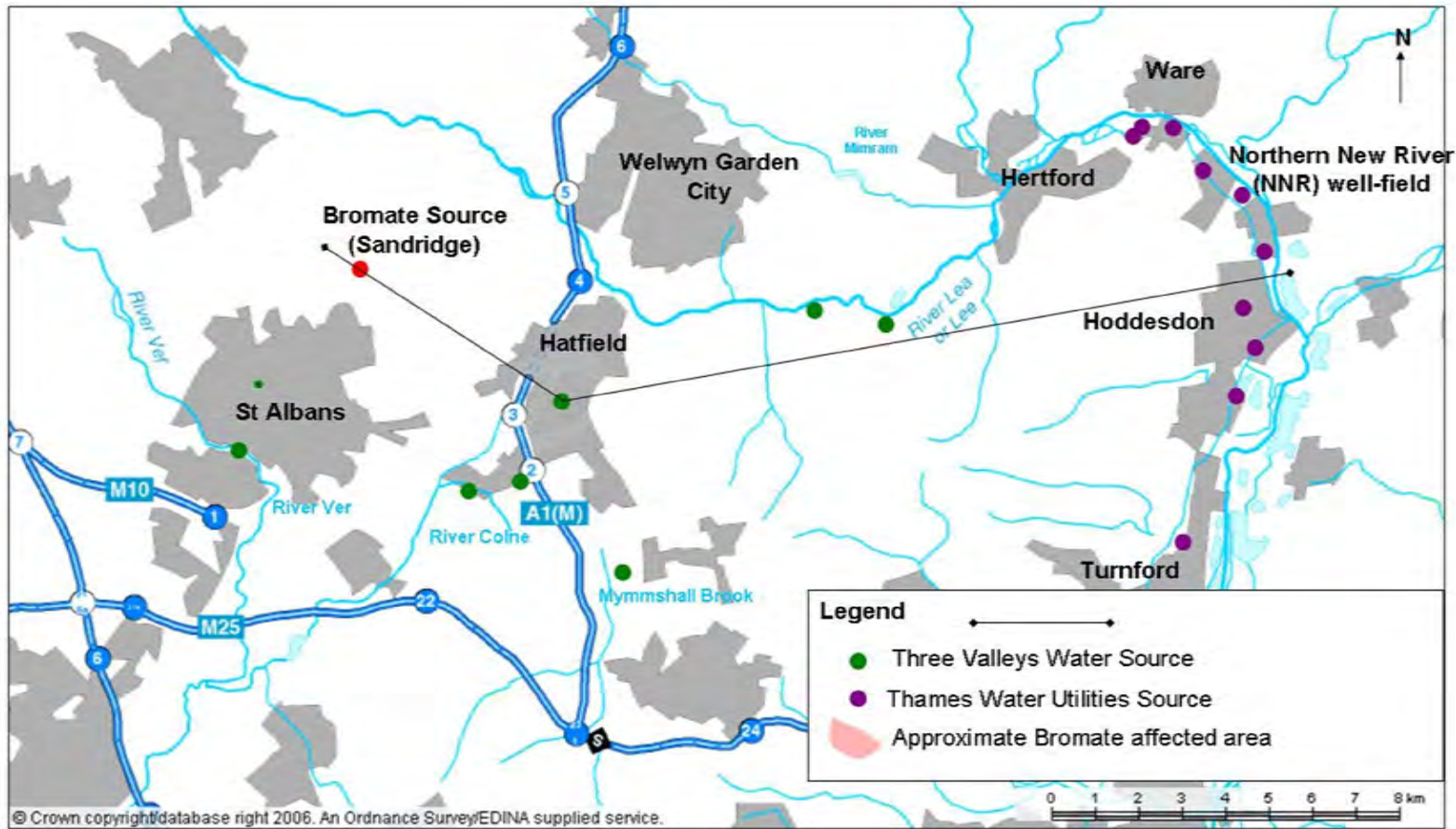
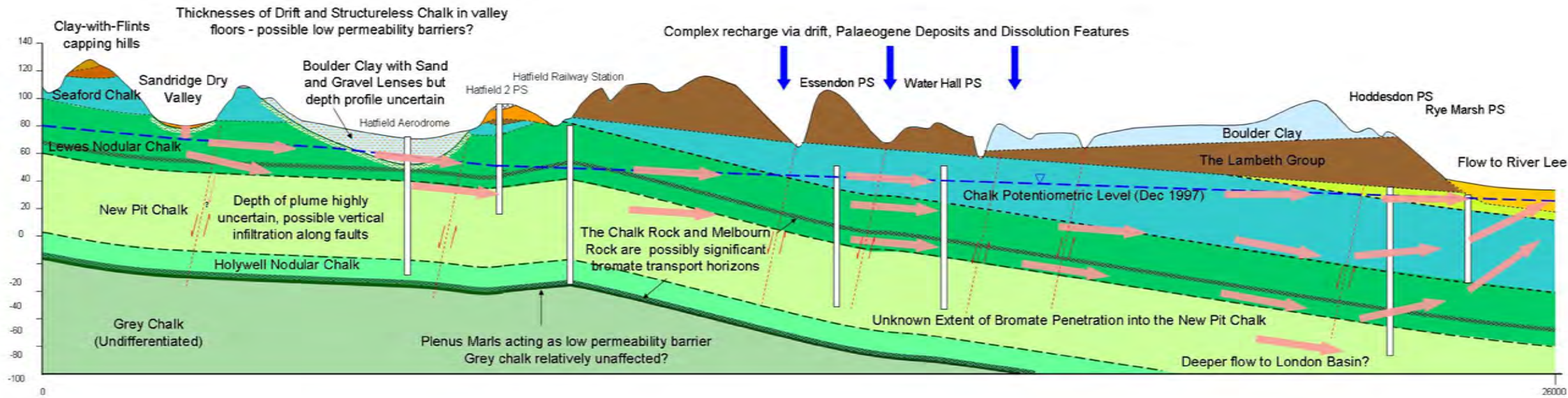


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HATFIELD AERODROME
PLANNING APPEAL EVIDENCE -
HYDROGEOLOGY
REGIONAL CHALK SURFACE AND
SUBCROP WITH MINERAL DEPOSITS

PR - PE1

Scale 1:20,000 @ A3 Date OCTOBER 2021



NOTES

IMAGE SHOWN IS TAKEN FROM FIGURE 13.4 COOK, S. J. (2010), THE HYDROGEOLOGY OF BROMATE CONTAMINATION IN THE HERTFORDSHIRE CHALK: INCORPORATING KARST IN PREDICTIVE MODELS., ENGD, UNIVERSITY COLLEGE LONDON.

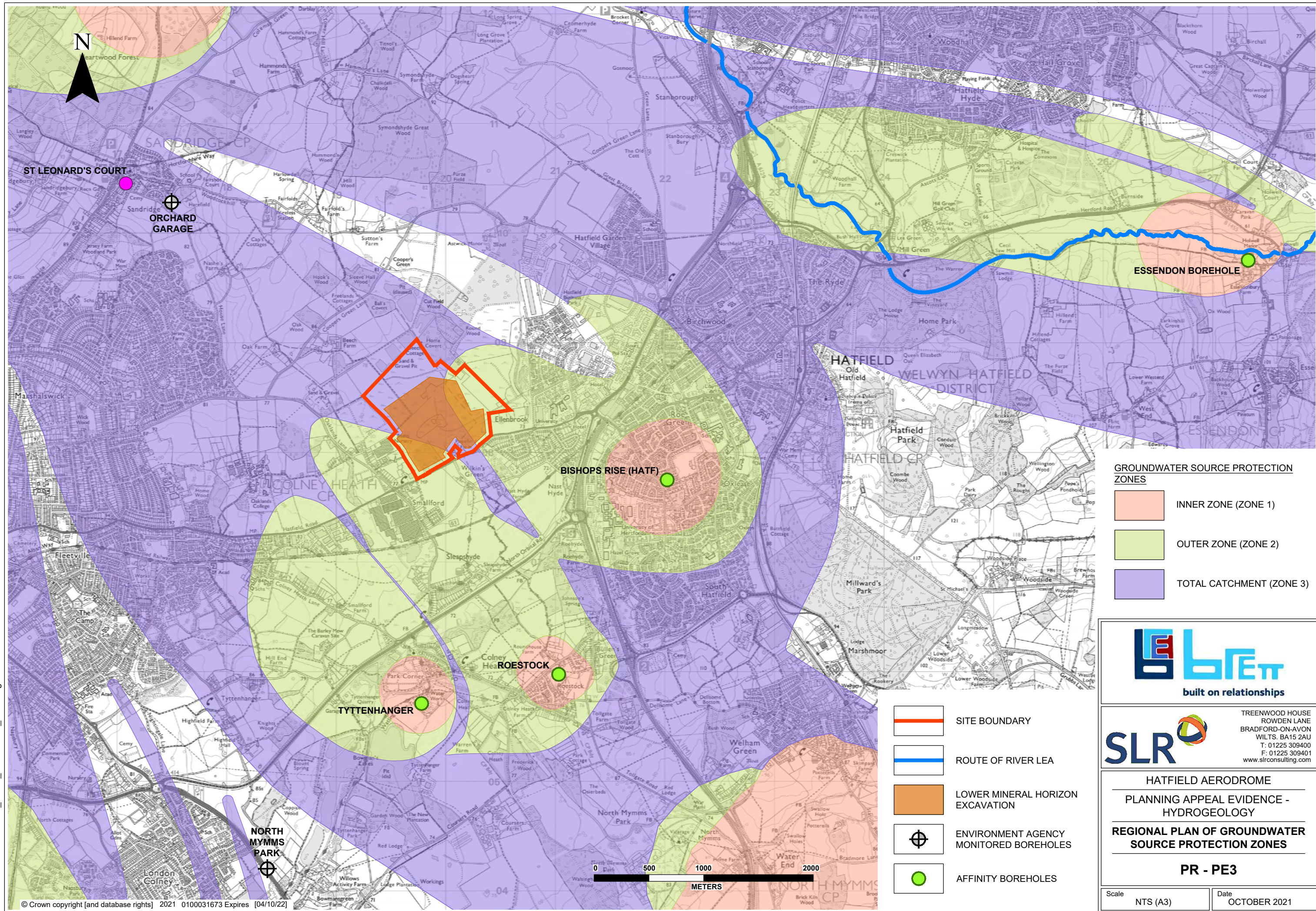


HATFIELD AERODROME
PLANNING APPEAL EVIDENCE -
HYDROGEOLOGY
CONCEPTUAL CROSS-SECTION
THROUGH THE REGIONAL GEOLOGY &
BROMATE PLUME (FROM COOK 2010)

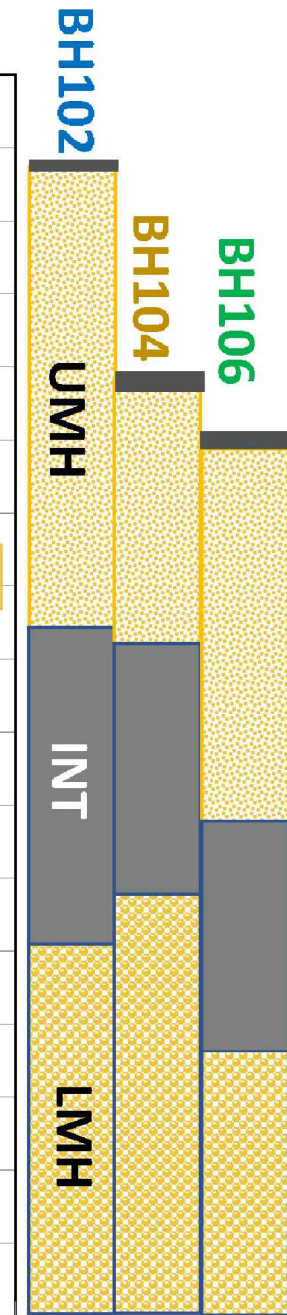
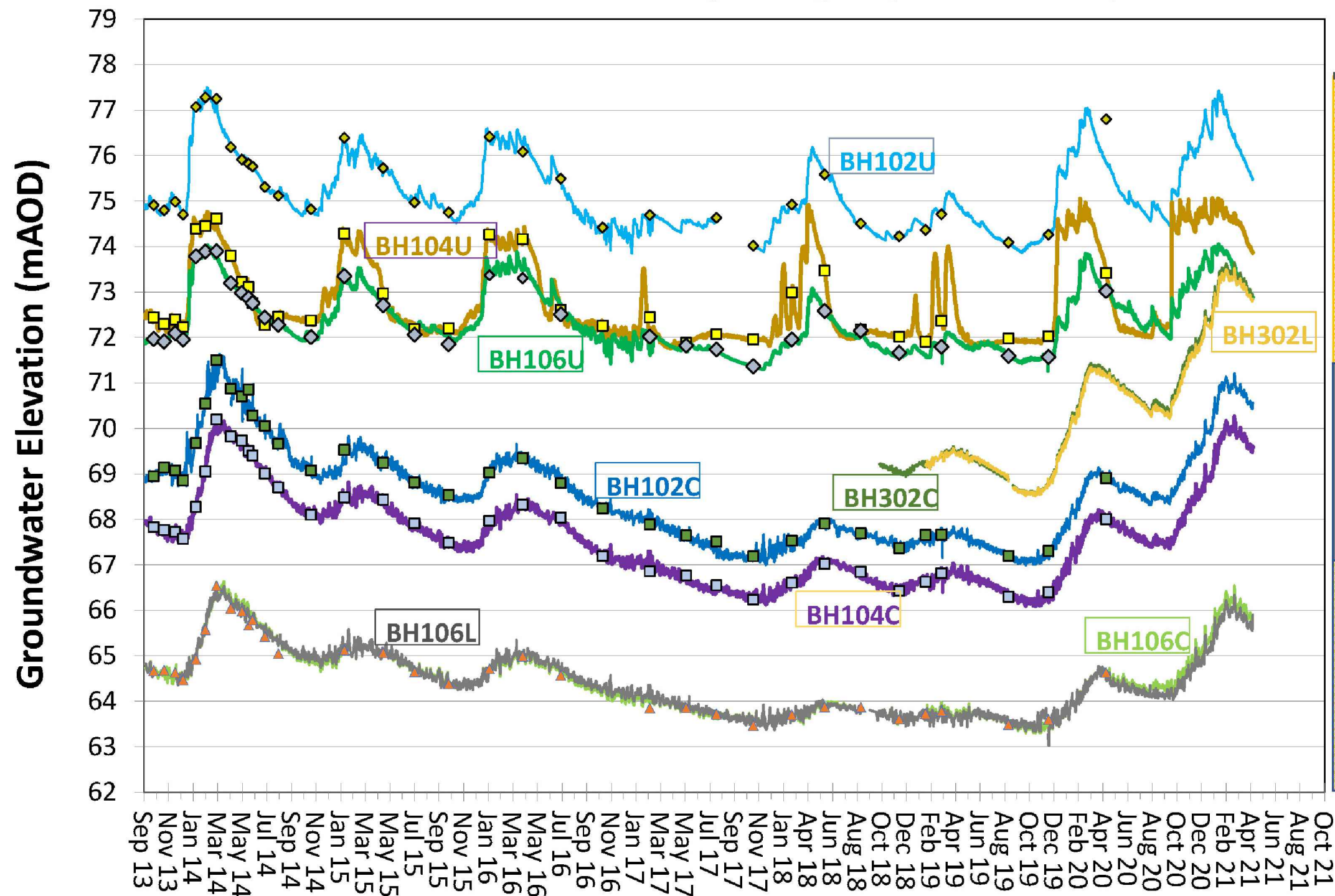
PR - PE2

Scale
NTS (A3)

Date
OCTOBER 2021



Hatfield Groundwater Hydrograph- All Aquifers



NOTES

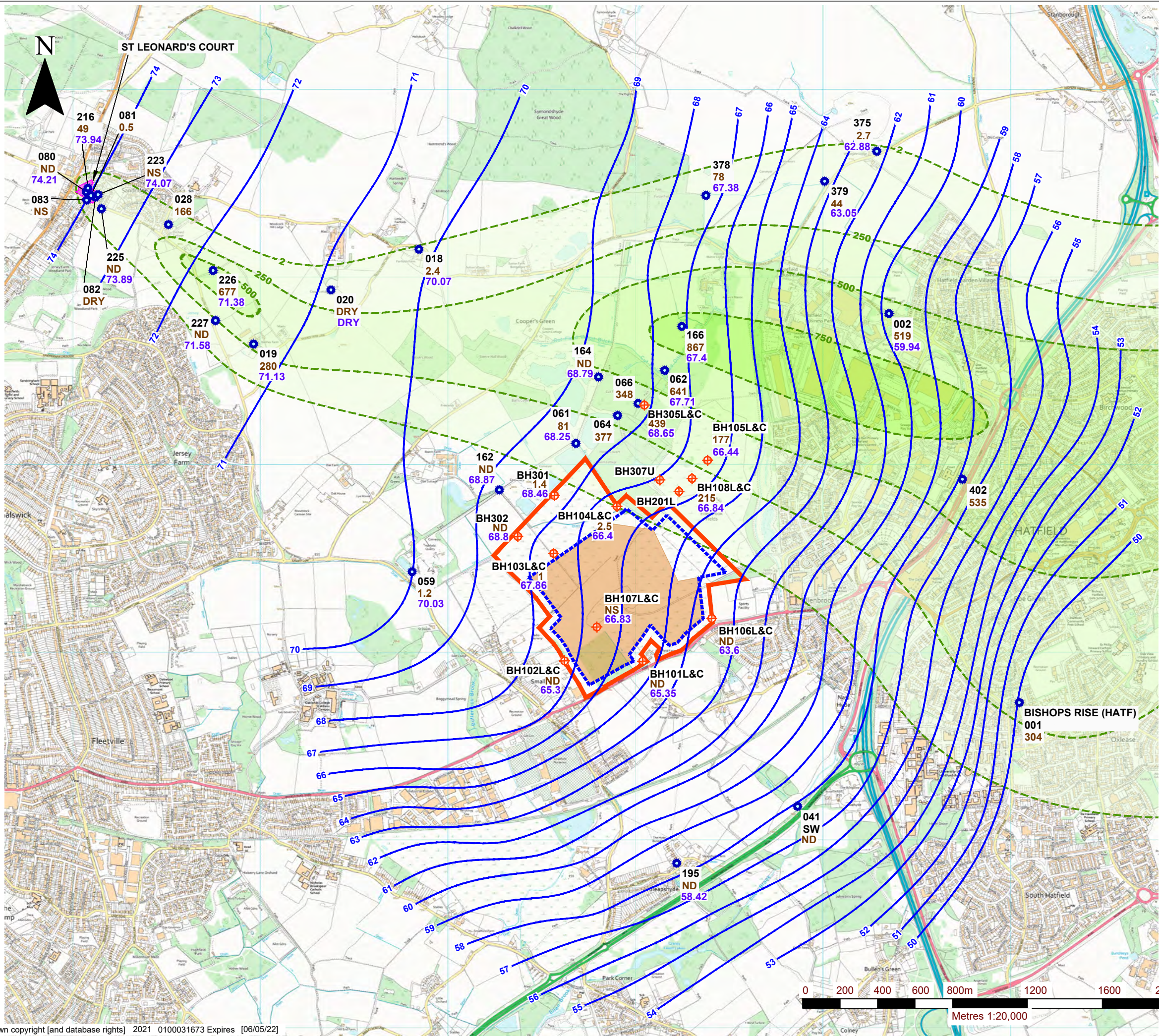


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HATFIELD AERODROME
 PLANNING APPEAL EVIDENCE -
 HYDROGEOLOGY
 HATFIELD HYDROGRAPH -
 UMA, LMA AND CHALK

PR - PE4

Scale NTS (A3) Date OCTOBER 2021



NOTES

- SITE BOUNDARY
- PROPOSED MINERAL DEVELOPMENT SITE
- LOWER MINERAL HORIZON EXCAVATION
- WELL NUMBER (ENVIRONMENT AGENCY REFERENCE NUMBER)

SLR BOREHOLES AND MONITORING POINTS

- SLR WELLS

GROUNDWATER LEVELS

- GROUNDWATER ELEVATION mAO
- GROUNDWATER CONTOURS mAO

BROMATE CONCENTRATION (ug/l)

- BROMATE (ug/l)
- NOT DETECTED
- NOT SAMPLED
- SURFACE WATER
- > 750
- 500 - 750
- 250 - 500
- 2 - 250

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PLANNING APPEAL EVIDENCE -
HYDROGEOLOGY

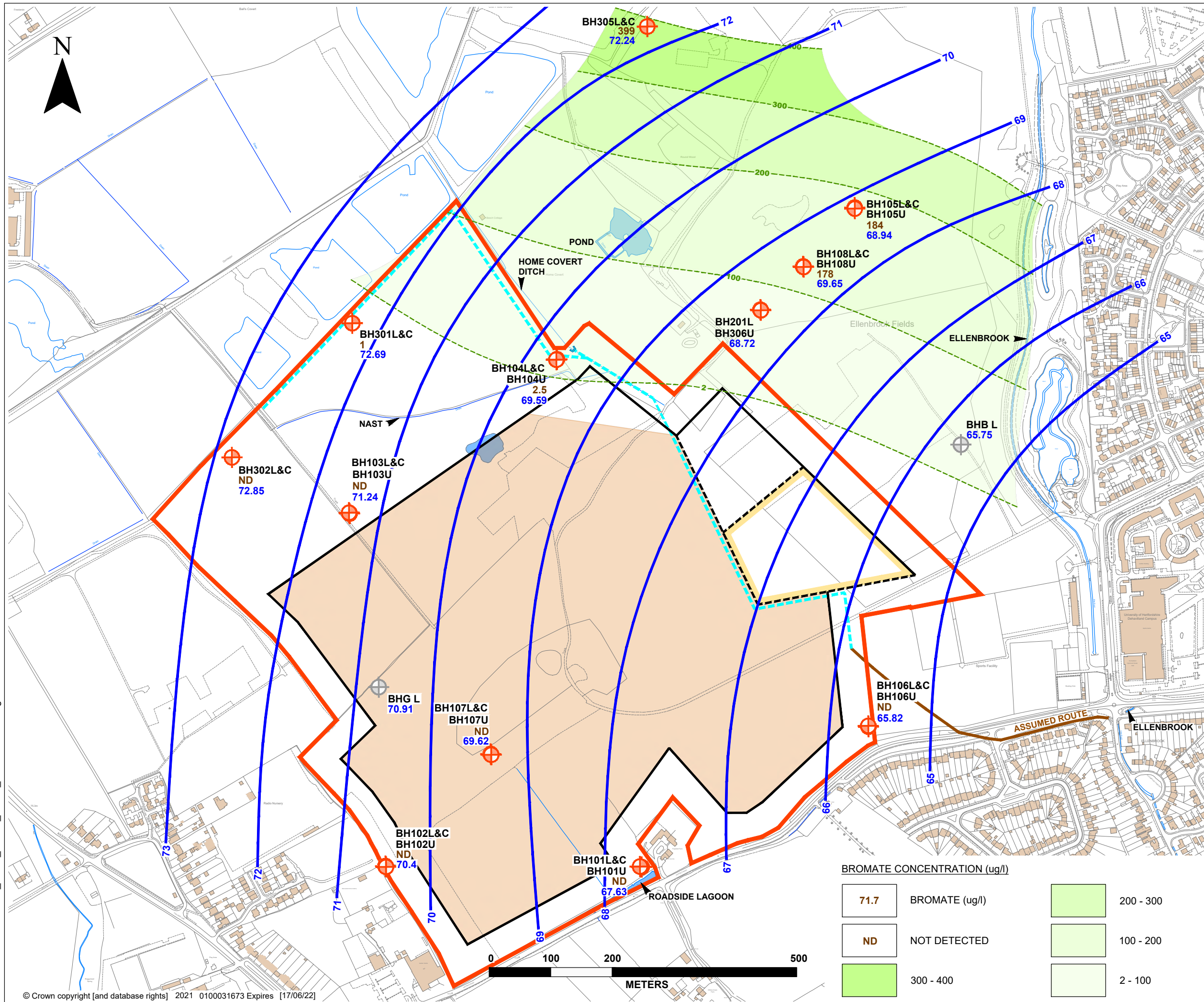
BROMATE PLUME CHALK
GROUNDWATER LOW (OCT 2019)

PR - PE5

Scale NTS (A3)

Date OCTOBER 2021

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NOTES

- SITE BOUNDARY
- EXISTING RIVER NAST CULVERT (TO BE RETAINED)
- RIVER NAST CULVERT (PROPOSED ROUTE)
- PROPOSED MINERAL DEVELOPMENT SITE
- PROPOSED LOWER MINERAL LAGOON
- LOWER MINERAL HORIZON EXCAVATION
- PRE BRETT MONITORING WELLS
- SLR BOREHOLES
- DUAL MONITORING WELLS (LOWER MINERAL HORIZON AND CHALK)
- SHALLOW MONITORING WELL (UPPER MINERAL HORIZON)
- PIEZOMETRIC SURFACE
- PIEZOMETRIC SURFACE ELEVATION (mAD) - SLR (APRIL 2021)



HATFIELD AERODROME

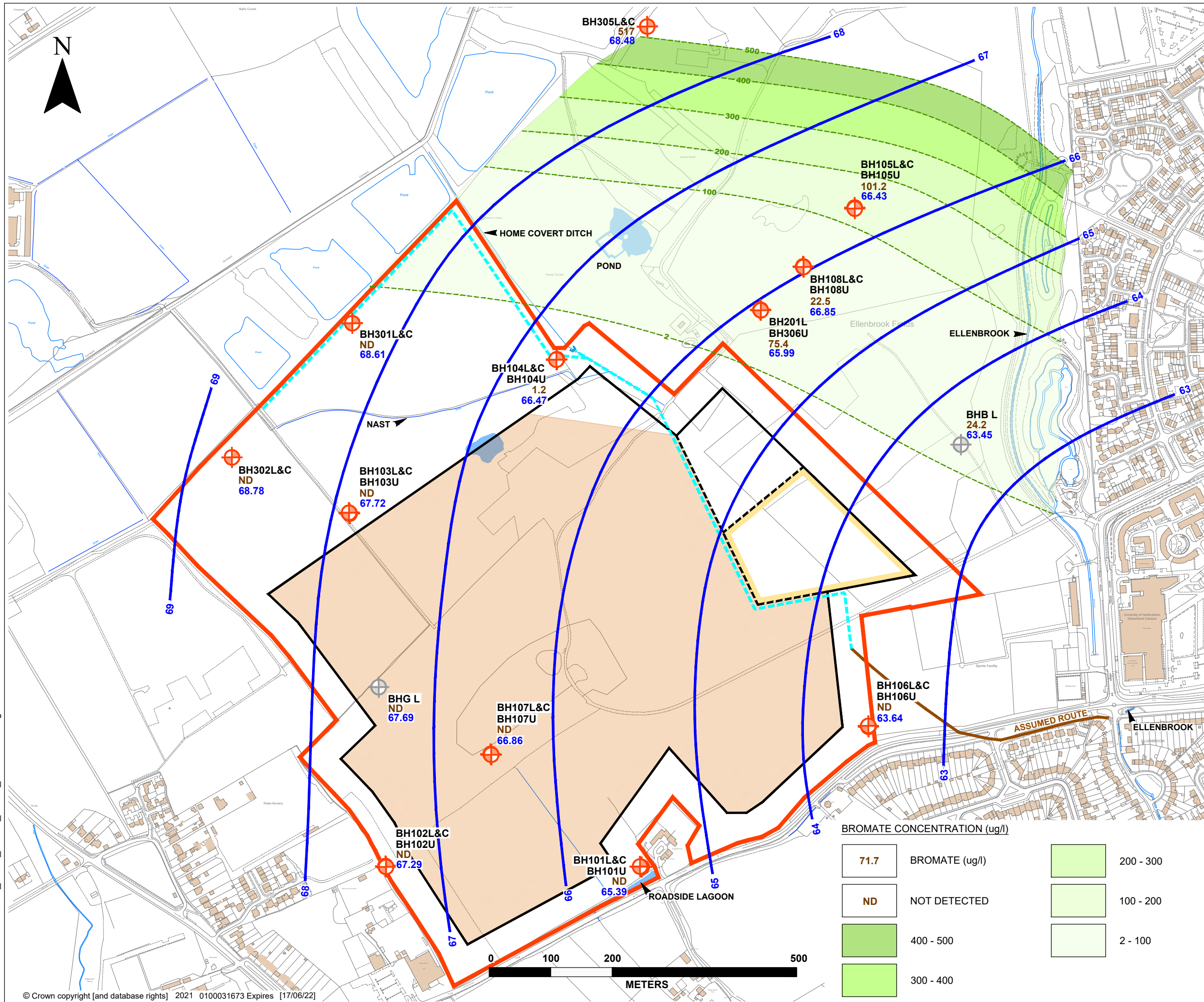
PLANNING APPEAL EVIDENCE - HYDROGEOLOGY

BROMATE PLUME CHALK GROUNDWATER HIGH (APRIL 2021)

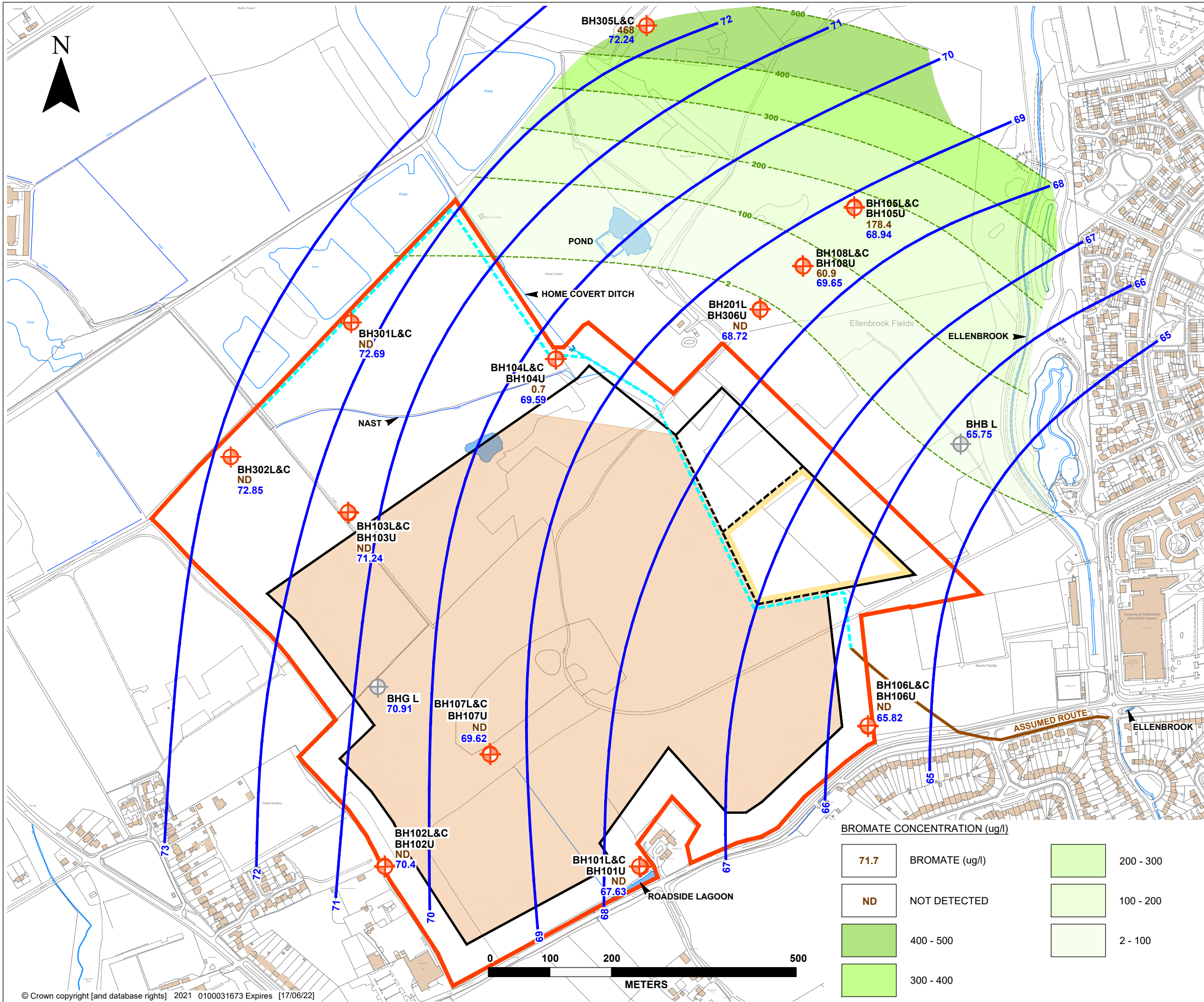
PR - PE6

Scale: NTS (A3) Date: OCTOBER 2021

09885.00024.19.PR-PE7_REV0_BROM_PLUM_LMH-1119.dwg



09885.00024.19.PR-PE8_REV0_BROM_PLUM_LMH-0421.dwg



NOTES

- SITE BOUNDARY
- EXISTING RIVER NAST CULVERT (TO BE RETAINED)
- RIVER NAST CULVERT (PROPOSED ROUTE)
- PROPOSED MINERAL DEVELOPMENT SITE
- PROPOSED LOWER MINERAL LAGOON
- LOWER MINERAL HORIZON EXCAVATION
- PRE BRETT MONITORING WELLS
- SLR BOREHOLES
- DUAL MONITORING WELLS (LOWER MINERAL HORIZON AND CHALK)
- SHALLOW MONITORING WELL (UPPER MINERAL HORIZON)
- PIEZOMETRIC SURFACE
- PIEZOMETRIC SURFACE ELEVATION (mAOD) - SLR (APRIL 2021)

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HATFIELD AERODROME

**PLANNING APPEAL EVIDENCE -
HYDROGEOLOGY**

**BROMATE PLUME LMH
GROUNDWATER HIGH (APRIL 2021)**

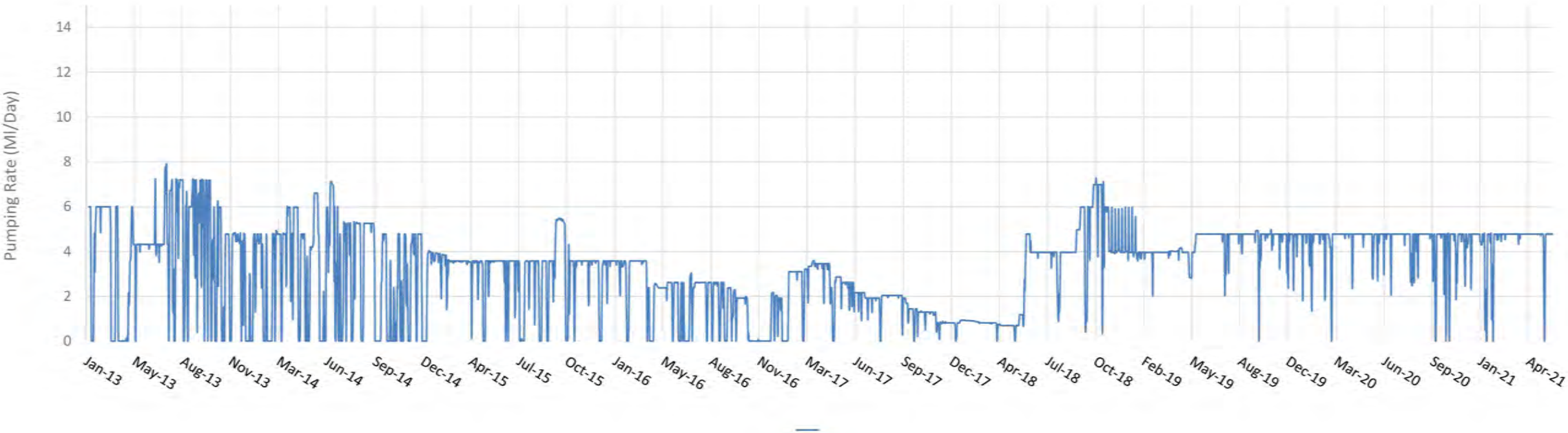
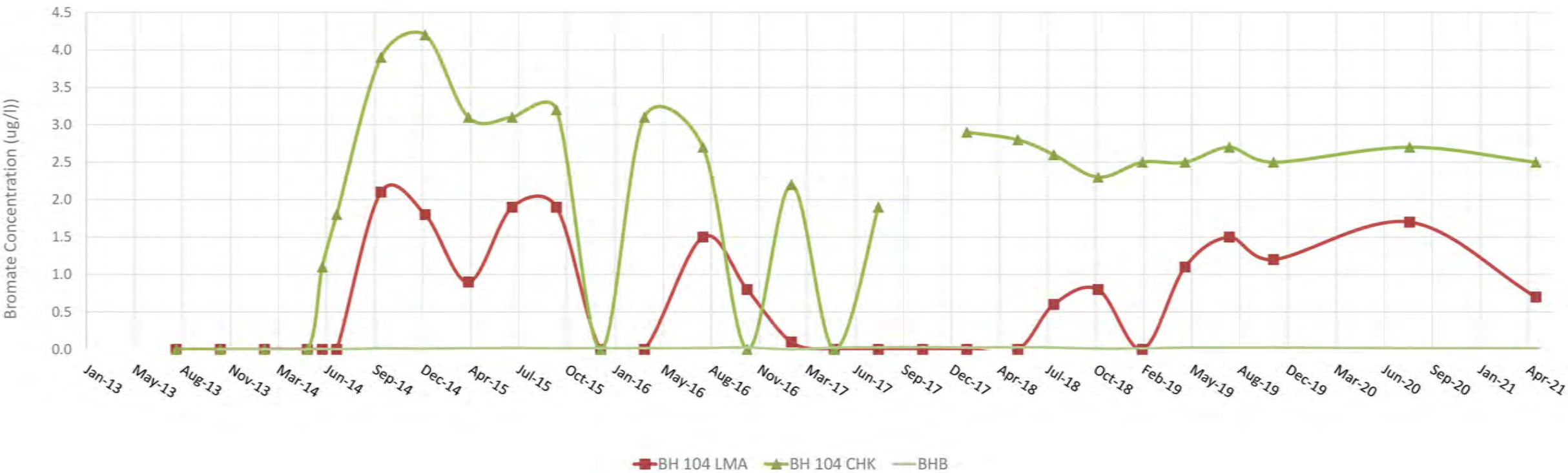
PR - PE8

Scale NTS (A3)

Date OCTOBER 2021

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Bishops Rise Abstraction vs BH 104 Bromate Concentration



NOTES



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HYDROGEOLOGY

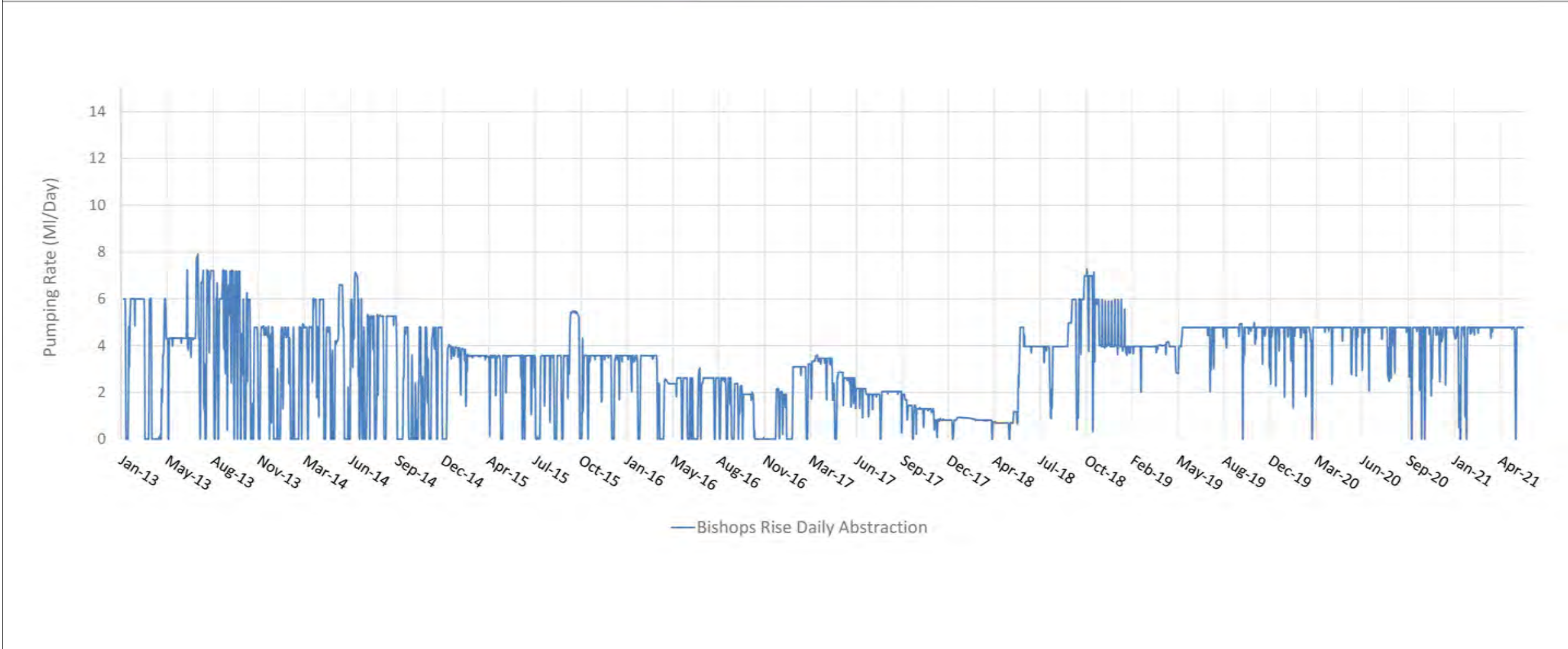
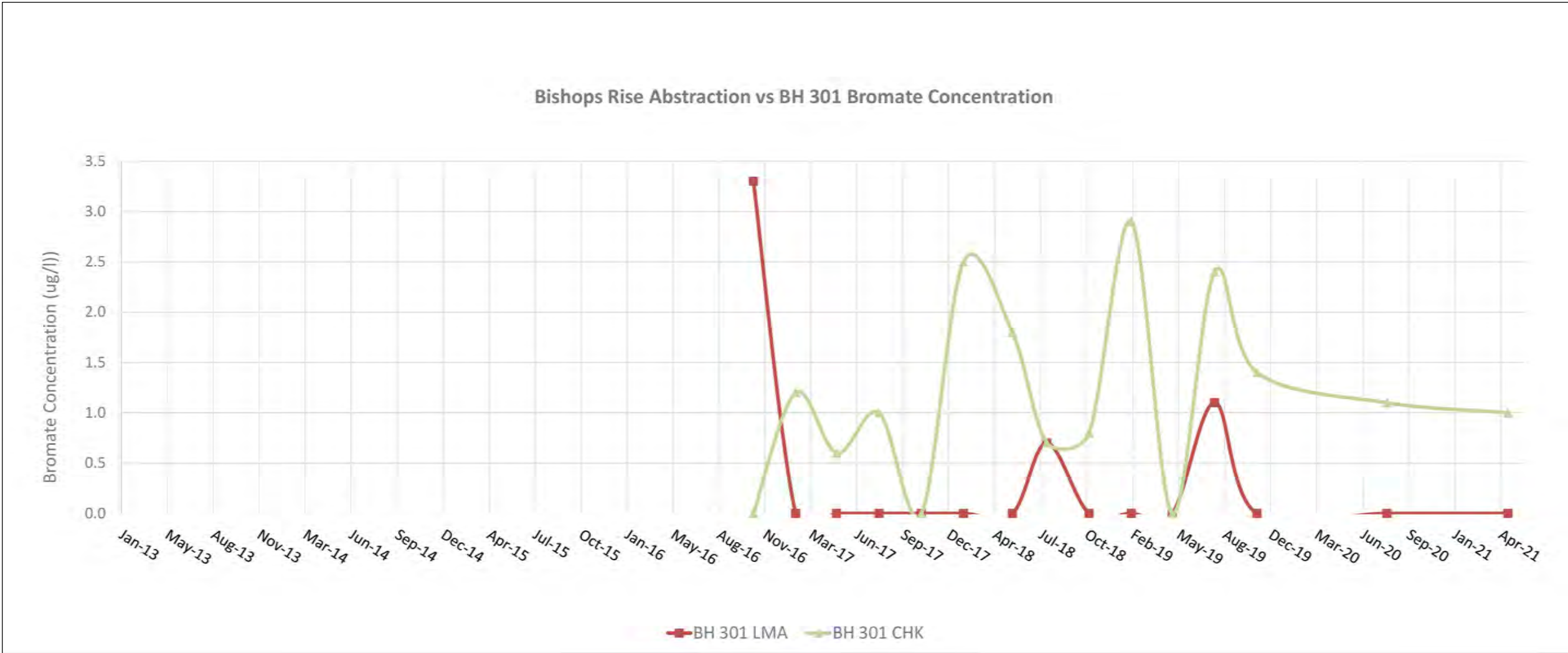
**BH104 BROMATE CONCENTRATION
RESPONSE TO BISHOPS RISE
(HAFT) ABSTRACTION**

PR - PE9


Scale
NTS (A3)

Date
OCTOBER 2021


09885.00024.19.PR-PE10_REV0_BH301_BROM_CON_RESPONSE.dwg



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PLANNING APPEAL EVIDENCE -
HYDROGEOLOGY

**BH301 BROMATE CONCENTRATION
RESPONSE TO BISHOPS RISE
(HAFT) ABSTRACTION**

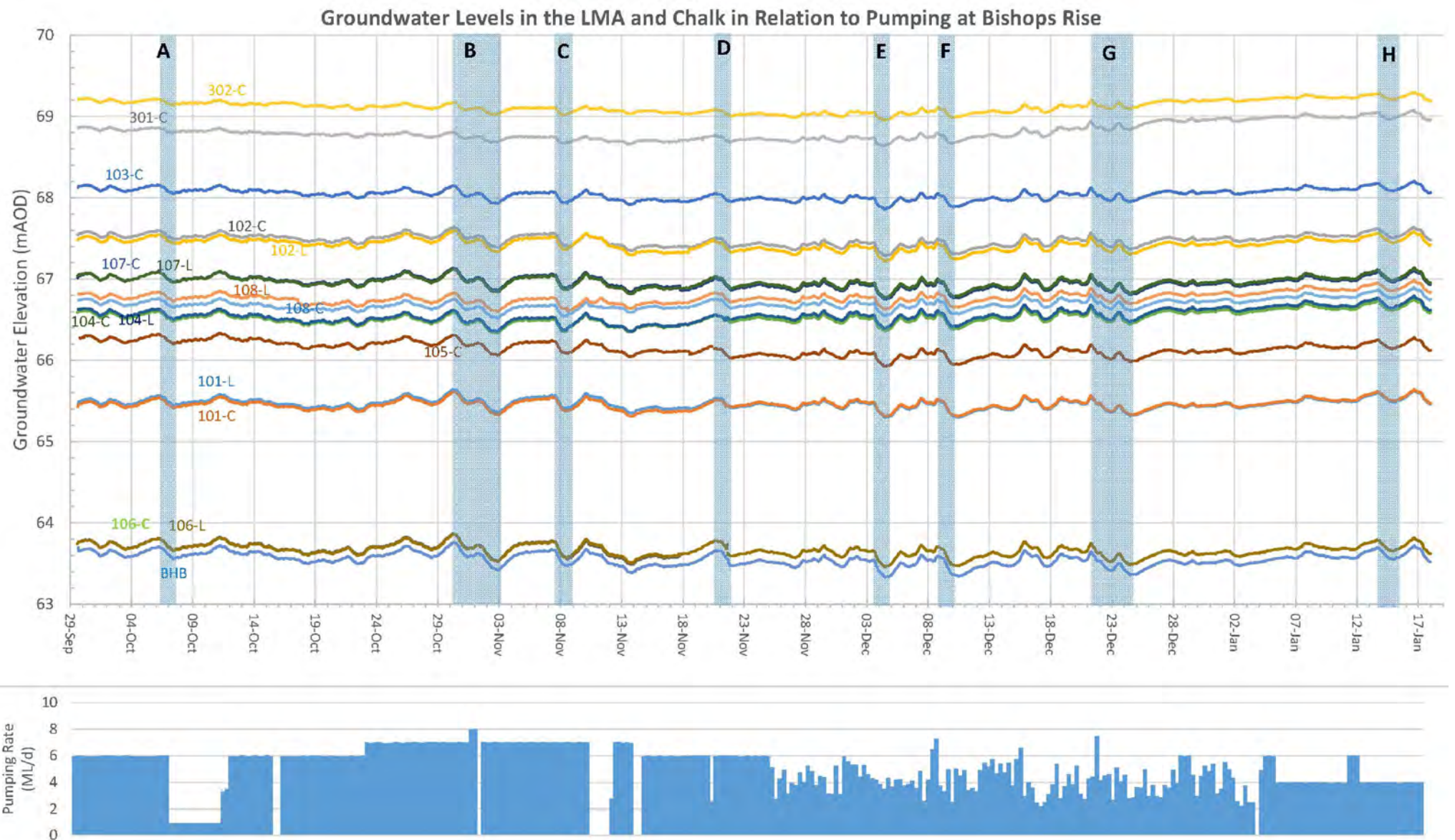
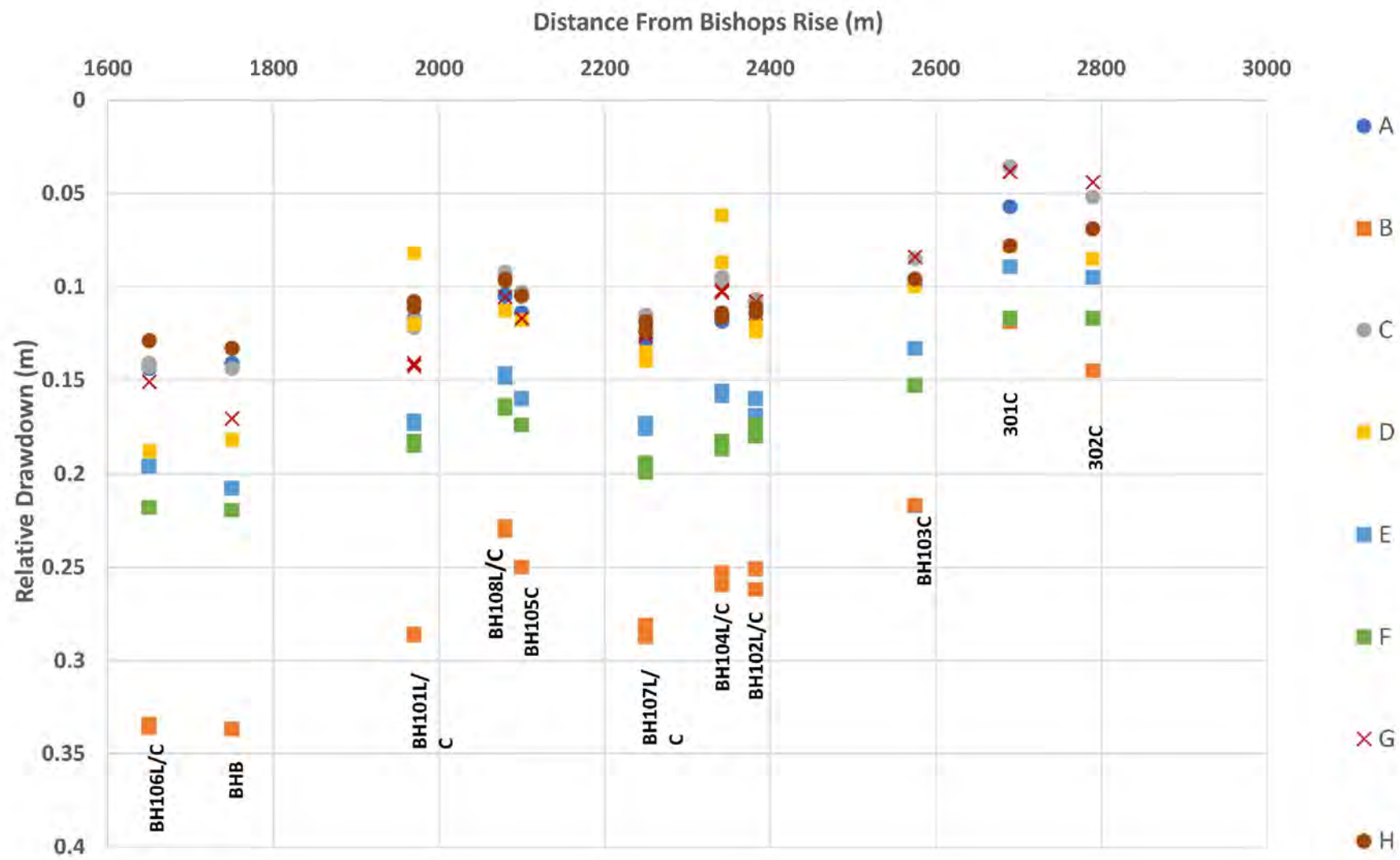
PR - PE10

Scale NTS (A3)

Date OCTOBER 2021

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HATFIELD AERODROME
PLANNING APPEAL EVIDENCE -
HYDROGEOLOGY
HYDROGRAPH OF STUDY AREA
DRAWDOWN IN RESPONSE TO
BISHOPS RISE SIGNAL TEST 2018-19

PR - PE11

Scale
NTS (A3)

Date
OCTOBER 2021

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